

**U.S. Army Aviation and Missile Command
Preference Program
For Designated Products
Containing Recovered Materials**



Redstone Arsenal, Alabama

June 2001

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For Designated Products

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U.S. Army Aviation and Missile Command Preference Program For Designated Products Containing Recovered Materials

Section 6002 of the Resource Conservation and Recovery Act (RCRA) and Executive Order (E.O.) 13101, "Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition," require that the U.S. Army Aviation and Missile Command (AMCOM) at Redstone Arsenal, Alabama, give buying preferences to products containing recovered materials. AMCOM's preference program for Comprehensive Procurement Guideline items is based on the U.S. Environmental Protection Agency's recovered materials content levels as specified in the Recovered Materials Advisory Notices (RMANs) [60 Federal Register (FR) 21386, May 1995; 61 FR 57759, November 1997; 63 FR 31214, June 1998; and 65 FR 3082, Wednesday, January 19, 2000]. Recovered materials content levels may either consist of a single value (e.g., office paper- 30 percent minimum postconsumer recovered materials) or a range of values (e.g., polyester carpet face fiber – 25-100 percent recovered materials). When a range is given, the lower value represents the minimum acceptable recovered material content level and the higher value is encouraged to the maximum extent practicable.

For some items such as yard trimmings compost, retread tires, reclaimed engine coolants, and toner cartridges, the use of recovered materials content levels is not applicable. AMCOM's preference program for these items is therefore based on EPA's alternative recommendations.

For those items included in AMCOMS's preference program, preference will be given to procuring and using products containing recovered materials versus products made with virgin materials when adequate competition exists, and when price, performance, and availability are equal (in accordance with section 6002(c)(1) of RCRA). Procuring agencies shall make determinations regarding competition and availability in accordance with the Federal Acquisition Regulation (FAR), 48 CFR Ch. 1 et seq. Decisions not to procure preferred items require a written determination based on EPA criteria.

Requiring elements and/or planners developing Contract Requirements Packages (CRPs) will specify the use of recovered materials in accordance with EPA's content standards and avoid the use of virgin materials. For procurements with potential for use of recovered material, whether or not included on the preference lists, the requiring element and/or planners will submit to the contracting office a brief description of the products or recovered materials to be used with the CRP.

AMCOM will promote a proactive approach to waste management issues and will contribute overall to conserving resources and energy by complying with Section 6002 of RCRA and E.O. 13101. AMCOM will conduct an organized, comprehensive, and continuing effort to purchase recycled and environmentally preferable products and services as an advocate of environmental stewardship for the Federal government.

The following tables list the products and requisite recovered materials content for which AMCOM has established a preference under the AMCOM Affirmative Procurement Program.

Construction Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR BUILDING INSULATION¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Rock Wool	Slag	--	75
Fiberglass	Glass Cullet	--	20-25
Cellulose Loose-Fill and Spray-On	Postconsumer Paper	75	75
Perlite Composite Board	Postconsumer Paper	23	23
Plastic Rigid Foam, Polyisocyanurate/Polyurethane:			
<i>Rigid Foam</i>	--	--	9
<i>Foam-in-Place</i>	--	--	5
<i>Glass Fiber Reinforced</i>	--	--	6
Phenolic Rigid Foam	--	--	5
Plastic, Non-Woven Batt	Recovered and/or Postconsumer Plastics	--	100

¹The recommended recovered materials content levels are based on the weight (not volume) of materials in the insulating core only.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR CARPET¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Polyester Carpet Face Fiber	PET	25-100	25-100

¹EPA recommends that, based on the recovered materials content levels shown in the table above, procuring agencies establish minimum content standards for use in purchasing polyester carpet for light-and moderate-wear applications. This recommendation does not include polyester carpet for use in heavy-wear or severe-wear applications; however, procuring agencies are encouraged to evaluate the suitability of polyester carpet in these applications. These recommendations do not preclude a procuring agency from purchasing carpet made of other materials such as nylon, wool, or polypropylene.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
CARPET CUSHION¹**

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Bonded Polyurethane	Old Carpet Cushion	15-50	15-50
Jute	Burlap	40	40
Synthetic Fibers	Carpet Fabrication Scrap	--	100
Rubber	Tire Rubber	60-90	60-90

¹EPA's recommendations do not preclude a procuring agency from purchasing another type of carpet cushion. They simply require that procuring agencies, when purchasing bonded polyurethane, jute, synthetic fiber, or rubber carpet cushions, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
REPROCESSED AND CONSOLIDATED LATEX PAINT¹**

Product	Postconsumer Content (%)	Total Recovered Materials Content (%)
Reprocessed Latex Paint: <i>White, Off-White, Pastel Colors</i> <i>Grey, Brown, Earthtones, and</i> <i>Other Dark Colors</i>	20 50-99	20 50-99
Consolidated Latex Paint	100	100

¹EPA's recommendations apply to reprocessed latex paints used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutter boards; and concrete, stucco, masonry, wood, and metal surfaces, and to consolidated latex paints used for covering graffiti, where color and consistency of performance are not primary concerns.

EPA's recommendation does not preclude agencies from purchasing paints manufactured from other, non-latex materials, such as oil-based paints. It simply recommends that procuring agencies, when purchasing latex paints, purchase these items made from postconsumer recovered materials when these items meet applicable specifications and performance requirements.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR CEMENT AND CONCRETE

EPA's RMAN recommends that procuring agencies prepare or revise their procurement programs for cement and concrete or for construction projects involving cement and concrete to allow the use of coal fly ash or Ground Granulated Blast Furnace (GGBF) slag, as appropriate. EPA does not recommend that procuring agencies favor one recovered material over the other. Rather, EPA recommends that procuring agencies consider the use of both recovered materials and choose the one that meets their performance requirements, consistent with availability and price considerations. EPA also recommends that procuring agencies specifically include provisions in all construction contracts to allow for the use, as optional or alternate materials, of cement or concrete that contains coal fly ash or GGBF slag where appropriate.

Due to variations in coal fly ash, GGBF slag, cement, strength requirements, costs, and construction practices, EPA is not recommending recovered materials content levels for cement or concrete containing coal fly ash or GGBF slag. EPA is, however, providing the following information about recovered materials content:

- Replacement rates of coal fly ash for cement in the production of blended cement generally do not exceed 20 to 30 percent, although coal fly ash blended cements may range from zero to 40 percent coal fly ash by weight, according to the American Society for Testing and Materials (ASTM) C 595, for cement Types IP and I(PM). Fifteen percent is a more accepted rate when coal fly ash is used as a partial cement replacement as an admixture in concrete.

According to ASTM C 595, GGBF slag can replace up to 70 percent of the Portland cement in some concrete mixtures. Most GGBF slag concrete mixtures contain between 25 and 50 percent GGBF slag by weight. EPA recommends that procuring agencies refer, at a minimum, to ASTM C 595 for the GGBF slag content appropriate for the intended use of the cement and concrete.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR FLOWABLE FILL

EPA recommends that procuring agencies use flowable fill containing coal fly ash and/or ferrous foundry sands for backfill and other fill applications. Specific content levels will depend on the specifics of the job, including the type of coal fly ash (Class C or Class F) or foundry sand used, strength, set time, flowability needed, bleeding, and shrinkage.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
FLOOR TILES AND PATIO BLOCKS^{1, 2}**

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Patio Blocks	Rubber or Rubber Blends	90-100	--
	Plastic or Plastic Blends	--	90-100
Floor Tiles (heavy duty/ commercial use)	Rubber	90-100	--
	Plastic	--	90-100

¹The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents. EPA's recommendation does not preclude procuring agencies from purchasing floor tiles or patio blocks manufactured from another material. It simply recommends that procuring agencies, when purchasing floor tiles or patio blocks made from rubber or plastic, purchase these items made from recovered materials. Recommendations for floor tiles are limited to heavy-duty/commercial-type applications only.

²EPA clarified in the *Federal Register* (FR) at 62 FR 60995, November 13, 1997, that the use of floor tiles with recovered materials might be appropriate only for specialty purpose uses (e.g., raised, open-web tiles for drainage on school kitchen flooring). Such specialty purpose uses involve limited flooring areas where grease, tar, snow, ice, wetness, or similar substances or conditions are likely to be present. Thus, EPA has no recovered materials content level recommendations for floor tiles made with recovered materials for standard office or more general purpose uses.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
STRUCTURAL FIBERBOARD AND LAMINATED PAPERBOARD¹**

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Structural Fiberboard	--	--	80-100
Laminated Paperboard	Postconsumer Paper	100	100

¹The recovered materials content levels are based on the weight (not volume) of materials in the insulating core only.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
RAILROAD GRADE CROSSINGS¹**

Surface Material	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Concrete	Old Coal Fly Ash	--	15-20
Rubber ²	Tire Rubber	--	85-95
Steel ³			
<i>BOF</i>	Steel	16	25-30
<i>EAF</i>	Steel	67	100

¹EPA's recommendation does not preclude a procuring agency from purchasing another type of railroad grade crossing surface, such as wood or asphalt. They simply require that procuring agencies, when purchasing concrete, rubber, or steel railroad grade crossing surfaces, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements. However, EPA recommends that procuring agencies consider using concrete, rubber, or steel grade crossing surfaces.

²The recommended recovered materials content for rubber railroad grade crossing surfaces are based on the weight of the raw materials, exclusive of any additives such as binders or adhesives.

³The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
SHOWER AND RESTROOM DIVIDERS/PARTITIONS CONTAINING RECOVERED PLASTIC
OR STEEL¹²**

Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Steel ²		
<i>BOF</i>	16	25-30
<i>EAF</i>	67	100
Plastic	20-100	20-100

¹EPA's recommendations do not preclude procuring agencies from purchasing shower and restroom dividers/partitions manufactured from another material such as wood. They simply require that procuring agencies, when purchasing shower and restroom dividers/partitions made from plastic or steel, purchase these items made from recovered materials when they meet applicable specifications and performance requirements.

²The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

Miscellaneous Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR AWARDS AND PLAQUES¹

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Glass	75-100	100
Wood	--	100
Paper	40-100	40-100
Plastic and Plastic/Wood Composite	50-100	95-100

¹EPA's recommendations do not preclude a procuring agency from purchasing awards and plaques manufactured from other materials. They simply require that a procuring agency, when purchasing glass, wood, paper, or plastic awards or plaques, purchase these items containing recovered materials when the item meets applicable specifications and performance requirements.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR STEEL, PLASTIC, AND FIBER INDUSTRIAL DRUMS¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Steel Drums	Steel ²	16	25-30
Plastic Drums	HDPE	30-100	30-100
Fiber drums	Paper	100	100

¹EPA's recommendations do not preclude a procuring agency from purchasing another type of industrial drum. However, they require that a procuring agency, when purchasing industrial drums made from steel, plastic, or fiber, purchase these items made with recovered materials when they meet applicable specifications and performance requirements.

²The recommended recovered materials content levels for steel in this table reflect the fact that the designated items are made from steel manufactured in a Basic Oxygen Furnace (BOF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
MATS¹**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Rubber	75-100	85-100
Plastic	10-100	100
Rubber/Plastic Composite	100	100

¹EPA’s recommendations do not preclude a procuring agency from purchasing mats made from other materials. They simply require that procuring agencies, when purchasing mats made from rubber and/or plastic, purchase them made with recovered materials when these items meet applicable specifications and performance requirements.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PALLETS CONTAINING RECOVERED WOOD, PLASTIC OR PAPERBOARD¹**

Product	Recovered Material	Postconsumer Content (%)
Wooden Pallets	Wood	95-100
Plastic Pallets		
<i>Plastic Lumber</i>	Plastic	100
<i>Thermoformed</i>	Plastic	25-50
Paperboard Pallets	Paperboard	50

¹EPA’s recommendations do not preclude a procuring agency from purchasing pallets manufactured from another material. It simply requires that a procuring agency, when purchasing pallets made from wood, plastic, or paperboard, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
SORBENTS USED IN OIL AND SOLVENTS CLEANUPS AND FOR USE AS ANIMAL BEDDING¹**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Paper	90-100	100
Textiles	95-100	95-100
Plastics	--	25-100
Wood ²	--	100
Other Organics/Multi-Materials ³	--	100

¹EPA’s recommendations do not preclude a procuring agency from purchasing sorbents made from other materials. They simply require that a procuring agency, when purchasing sorbents made from paper, wood, textiles, plastic, or other organic materials, purchase them made with recovered materials when these items meet applicable specifications and performance requirements.

²“Wood” includes materials such as sawdust and lumber mill trimmings.

³Examples of other organics include, but are not limited to, peanut hulls and corn stover. An example of multi-material sorbents would include, but not be limited to, a polymer and cellulose fiber combination.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
SIGNAGE¹**

Item/Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic Signs ²	80-100	80-100
Aluminum Signs	25	25
Plastic sign posts/supports ²	80-100	80-100
Steel sign posts/supports ³		
<i>BOF</i>	16	25-30
<i>EAF</i>	67	100

¹EPA’s recommendations do not preclude a procuring agency from purchasing signs or sign posts made from other materials. They simply require that a procuring agency, when purchasing signs made from plastic or aluminum, or sign posts made from plastic or steel, purchase them made with recovered materials when these items meet applicable specifications and performance requirements.

²Plastic signs and sign posts are recommended for non-road applications only, such as, but not limited to, trailway signs in parks and directional/informational signs in buildings.

³The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
MANUAL-GRADE POLYESTER, POLYPROPYLENE, AND STEEL STRAPPING¹**

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Polyester Strapping	PET	50-80	50-85
Polypropylene Strapping	PP	40	10-40
Steel Strapping ²			
<i>BOF</i>	Steel	16	25-30
<i>EAF</i>	Steel	67	100

¹EPA's recommendations do not preclude a procuring agency from purchasing another type of strapping, such as nylon. They simply require that a procuring agency, when purchasing polyester, polypropylene, or steel manual-grade strapping, purchase these items made with recovered materials when they meet applicable specifications and performance requirements.

²The recommended recovered materials content levels for steel in this table reflect the fact that the designated items are made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnance (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

Transportation Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR CHANNELIZERS, DELINEATORS, AND FLEXIBLE DELINEATORS CONTAINING RECOVERED PLASTIC, RUBBER, OR STEEL¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Channelizers	Plastic	25-95	25-95
	Rubber ² (base only)	100	100
Delineators	Plastic	25-90	25-90
	Rubber (base only)	100	100
	Steel ³ (base only)		
	<i>BOF</i>	16	25-30
	<i>EAF</i>	67	100
Flexible Delineators	Plastic	25-85	25-85

¹EPA's recommendations do not preclude a procuring agency from purchasing channelizers, delineators, or flexible delineators manufactured from another material. They simply require that a procuring agency, when purchasing items made from rubber, plastic, or steel, purchase these items made with recovered materials when they meet applicable specifications and performance requirements.

²Content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents.

³The recommended recovered materials content levels for steel in this table reflect the fact that the designated items are made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
TRAFFIC CONES¹**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic (PVC and LDPE)	--	50-100
Crumb rubber	--	50-100

¹Transportation products containing recovered materials must conform to the *Manual on Uniform Highway Traffic Control Devices* used by the Federal Highway Administration, as well as other applicable federal requirements and specifications.

²The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders or coloring agents.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PARKING STOPS MADE FROM CONCRETE OR CONTAINING RECOVERED PLASTIC OR
RUBBER^{1,2}**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic and/or Rubber ³	100	--
Concrete Containing Coal Fly Ash	--	20-40 ⁴
Concrete Containing Ground Granulated Blast Furnace Slag (GGBF)	--	25-70

¹EPA's recommendations do not preclude a procuring agency from purchasing parking stops made from other materials. They simply require that a procuring agency, when purchasing concrete parking stops or parking stops made with plastic or rubber, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements.

²Transportation products containing recovered materials must conform to the *Manual on Uniform Highway Traffic Control Devices* used by the Federal Highway Administration, as well as other applicable federal requirements and specifications.

³Parking stops made with recovered plastics may also include other recovered materials such as sawdust, wood, or fiberglass. The percentage of these materials contained in the product would also count toward the recovered materials content level of the parking stops.

⁴Generally, the total recovered materials content for parking stops made from concrete containing coal fly ash is 20-30%, however it could be as high as 40%. When the concrete containing coal fly ash is used as a partial cement replacement as an admixture in concrete, the total recovered materials is only 15%.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
TRAFFIC BARRICADES (TYPES I AND II)¹**

Item/Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic (HDPE, LDPE, PET)	80-100	100
Steel ²		
<i>BOF</i>	16	25-30
<i>EAF</i>	67	100
Fiberglass	--	100

¹The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders or coloring agents.

²The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

Landscaping Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR GARDEN AND SOAKER HOSES CONTAINING RECOVERED PLASTIC OR RUBBER¹

Product	Recovered Material	Postconsumer Content (%)
Garden Hose	Rubber and/or Plastic	60-65
Soaker Hose	Rubber and/or Plastic	60-70

¹EPA's recommendations do not preclude a procuring agency from purchasing garden and soaker hoses manufactured from other materials. It simply requires that a procuring agency, when purchasing garden and soaker hoses made from plastic or rubber, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR HYDRAULIC MULCH PRODUCTS¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Paper-Based Hydraulic Mulch	Paper	100	100
Wood-Based Hydraulic Mulch	Wood and Paper	--	100

¹The recommended recovered materials content levels are based on the dry weight of the fiber, exclusive of any dyes, wetting agents, seeds, fertilizer, or other non-cellulose additives.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PLASTIC LUMBER LANDSCAPING TIMBERS AND POSTS¹

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
HDPE	25-100	75-100
Mixed Plastic/Sawdust	50	100
HDPE/Fiberglass	75	95
Other Mixed Resins	50-100	95-100

¹EPA's recommendations do not preclude a procuring agency from purchasing wooden landscaping timbers and posts. They simply require that procuring agencies, when purchasing plastic landscaping timbers and posts, purchase these items made with recovered materials when the items meet applicable specifications and performance requirements.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
LAWN AND GARDEN EDGING CONTAINING RECOVERED PLASTIC OR RUBBER¹**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic and/or Rubber	30-100	30-100

¹EPA’s recommendation does not preclude a procuring agency from purchasing lawn and garden edging manufactured from another material such as wood. It simply requires that a procuring agency, when purchasing lawn and garden edging made from plastic and/or rubber, purchase these items made with recovered materials when these items meet applicable specifications and performance requirements.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
COMPOST MADE FROM YARD TRIMMINGS AND/OR FOOD WASTE**

EPA’s RMAN recommends that procuring agencies purchase or use compost made from yard trimmings, leaves, grass clippings, and/or food wastes in such applications as landscaping, seeding of grasses or other plants on roadsides and embankments, as nutritious mulch under trees and shrubs, and in erosion control and soil reclamation.

EPA further recommends that those procuring agencies that have an adequate volume of yard trimmings, leaves, grass clippings, and/or food wastes, as well as sufficient space for composting, should implement a composting system to produce compost from these materials to meet their landscaping and other needs.

Park and Recreation Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PARK BENCHES AND PICNIC TABLES¹

Product	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastics ²	90-100	100
Plastic Composites	50-100	100
Aluminum	25	25
Concrete	--	15-40
Steel ³		
BOF	16	25-30
EAF	67	100

¹EPA's recommendations do not preclude a procuring agency from purchasing park benches and picnic tables made from other materials. They simply require that procuring agencies, when purchasing park benches or picnic tables made from plastic, aluminum, concrete, or steel, purchase these items made from recovered materials when these items meet applicable specifications and performance requirements.

²"Plastics" include both single and mixed plastic resins. Park benches and picnic tables made with recovered plastics may also contain other recovered materials such as sawdust, wood, or fiberglass. The percentage of these materials contained in the product would also count toward the recovered materials content level of the item.

³The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR FENCING CONTAINING RECOVERED PLASTIC^{1,2}

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic	60-100	90-100

¹EPA's recommendation does not preclude a procuring agency from purchasing fencing manufactured from another material, such as wood. It simply requires that a procuring agency, when purchasing plastic fencing, purchase this item made with recovered materials when the item meets applicable specifications and performance requirements.

²Designation includes fencing containing recovered plastic for use in controlling snow or sand drifting and as a warning/safety barrier in construction or other applications.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PLAYGROUND EQUIPMENT¹**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic ²	90-100	100
Plastic Composites	50-75	95-100
Steel ³		
<i>BOF</i>	16	25-30
<i>EAF</i>	67	100
Aluminum	25	25

¹EPA’s recommendations do not preclude a procuring agency from purchasing playground equipment manufactured from other materials. They simply require that a procuring agency, when purchasing playground equipment made from plastic, steel, wood, or aluminum, purchase these items with recovered materials when those items meet applicable specifications and performance requirements.

²“Plastics” includes both single and mixed plastic resins. Playground equipment made with recovered plastics may also contain other recovered materials such as wood or fiberglass. The percentage of these materials contained in the product would also count toward the recovered materials content level of the item.

³The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured in either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is postconsumer.

**EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PLAYGROUND SURFACES^{1,2}**

Material	Postconsumer Content (%)
Rubber or Plastic	90-100

¹EPA’s recommendation does not preclude procuring agencies from purchasing playground surfaces manufactured from another material. It simply recommends that procuring agencies, when purchasing playground surfaces made from rubber or plastic, purchase these items made from recovered materials.

²The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
RUNNING TRACKS^{1,2}**

Material	Postconsumer Content (%)
Rubber or Plastic	90-100

¹EPA's recommendation does not preclude procuring agencies from purchasing running tracks manufactured from another material. It simply recommends that procuring agencies, when purchasing running tracks made from rubber or plastic, purchase these items made from recovered materials.

²The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents.

Paper and Paper Products

EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR UNCOATED PRINTING AND WRITING PAPERS

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Reprographic Paper (e.g., mimeo and duplicator paper, high-speed copier paper, and bond paper*)	30	30
Offset Paper (e.g., offset printing paper*, book paper*, and bond paper*)	30	30
Tablet Paper (e.g., offset paper such as note pads, stationery*, and other writing* papers)	30	30
Forms Bond (e.g., forms, computer printout paper, and ledger*)	30	30
Envelope Paper		
Wove	30	30
Kraft		
<i>White and Colored (including manila)</i>	10-20	10-20
<i>Unbleached</i>	10	10
Cotton Fiber Paper (e.g., cotton fiber papers, ledger*, stationery*, and matching envelopes, and other writing* papers)	30	30
Text and Cover Paper (e.g., cover stock, book paper*, stationery* and matching envelopes, and other writing* paper)	30	30
Supercalendered	10	10
Machine Finish Groundwood	10	10
Papeteries	30	30
Check Safety Paper	10	10

*These items can be made from a variety of printing and writing papers, depending on the performance characteristics of the item. Some of the papers are a commodity-type and some are specialty papers. EPA recommends that procuring agencies determine the performance characteristics required of the paper prior to establishing minimum content standards. Bond, ledger, or stationery made from cotton fiber paper or a text and cover paper, for example, have different characteristics than similar items made from commodity papers.

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
COATED PRINTING AND WRITING PAPERS**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Coated Printing Paper	10	10
Carbonless	30	30

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
BRISTOLS**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
File Folders (manila and colored)	30	30
Dyed Filing Products	20	20-50
Cards (index, postal, and other, including index sheets)	20	50
Pressboard Report Covers and Binders	20	50
Tags and Tickets	20	20-50

NOTE: The content levels for all EPA recommendations should be read as X% recovered fiber, including Y% postconsumer fiber and NOT as X% recovered fiber PLUS Y% postconsumer fiber.

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
NEWSPRINT**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Newsprint	20-85	20-100

NOTE: The content levels should be read as X% recovered fiber, including Y% postconsumer fiber and NOT as X% recovered fiber PLUS Y% postconsumer fiber.

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
COMMERCIAL/INDUSTRIAL SANITARY TISSUE PRODUCTS**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Bathroom Tissue	20-60	20-100
Paper Towels	40-60	40-100
Paper Napkins	30-60	30-100
Facial Tissue	10-15	10-100
General Purpose Industrial Wipers	40	40-100

NOTE: The content levels should be read as X% recovered fiber, including Y% postconsumer fiber and NOT as X% recovered fiber PLUS Y% postconsumer fiber.

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
MISCELLANEOUS PAPER PRODUCTS**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Tray Liners	50-75	100

NOTE: The content levels should be read as X% recovered fiber, including Y% postconsumer fiber and NOT as X% recovered fiber PLUS Y% postconsumer fiber.

**EPA'S RECOMMENDED RECOVERED FIBER CONTENT LEVELS FOR
PAPERBOARD AND PACKAGING PRODUCTS**

Item	Postconsumer Fiber (%)	Recovered Fiber (%)
Corrugated Containers ¹		
<300 psi	25-50	25-50
300 psi	25-30	25-30
Solid Fiber Boxes	40	40
Folding Cartons ²	40-80	100
Industrial Paperboard (e.g., tubes, cores, drums, and cans)	45-100	100
Miscellaneous (e.g., pad backs, covered binders, book covers, mailing tubes, protective packaging)	75-100	90-100
Padded Mailers	5-15	5-15
Carrierboard ³	10-15	10-100
Brown Papers (e.g., wrapping paper and bags)	5-20	5-40

¹The recovered fiber and postconsumer fiber content is calculated from the content of each component relative to the weight each contributes to the total weight of the box.

²The recommended content ranges are not applicable to all types of paperboard used in folding cartons. Cartons made from solid bleached sulfate or solid unbleached sulfate contain no or small percentages of postconsumer fiber, depending on the paperboard source.

³Carrierboard made from unbleached kraft contains up to 25% recovered fiber, while carrierboard made from recycled paperboard contains up to 100% recovered fiber.

NOTE: The content levels should be read as X% recovered fiber, including Y% postconsumer fiber and NOT as X% recovered fiber PLUS Y% postconsumer fiber.

Nonpaper Office Products

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR BINDERS, CLIPBOARDS, FILE FOLDERS, CLIP PORTFOLIOS, AND PRESENTATION FOLDERS¹

Product	Recovered Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Binders	Plastic-covered	--	25-50
	Paper-covered	75-100	90-100
	Pressboard	20	50
	Solid Plastic		
	<i>HDPE</i>	90	90
	<i>PE</i>	30-50	30-50
	<i>PET</i>	100	100
	<i>Misc. Plastics</i>	80	80
Plastic Clipboards	HDPE	90	90
	PS	50	50
	Misc. Plastics	15	15-80
Plastic File Folders	HDPE	90	90
Plastic Clip Portfolios	HDPE	90	90
Plastic Presentation Folders	HDPE	90	90

¹EPA's recommendations do not preclude a procuring agency from purchasing binders, clipboards, file folders, clip portfolios, or presentation folders made from another material. They simply require that procuring agencies, when purchasing these items made from the materials above, purchase them made from recovered materials when these items meet applicable specifications and performance requirements.

EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PLASTIC DESKTOP ACCESSORIES¹

Product	Recovered Material	Postconsumer Content (%)
Plastic Desktop Accessories	Polystyrene	25-80

¹EPA's recommendations do not preclude a procuring agency from purchasing a desktop accessory manufactured from another material, such as paper, wood, or steel. It simply require that procuring agencies, when purchasing plastic desktop accessories, purchase them made from recovered materials when these items meet applicable specifications and performance requirements.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
OFFICE RECYCLING CONTAINERS AND OFFICE WASTE RECEPTACLES¹**

Materials	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic	20-100	--
Steel ²	16	25-30
Paper		
<i>Corrugated</i>	25-50	25-50
<i>Solid Fiber Boxes</i>	40	--
<i>Industrial Paperboard</i>	40-80	100

¹EPA's recommendations do not preclude a procuring agency from purchasing containers or receptacles manufactured using another material such as wood. They simply require that procuring agencies, when purchasing office recycling containers or office waste receptacles manufactured from plastic, paper, or steel, purchase such containers made with recovered materials when these items meet applicable specifications and performance requirements.

²The recommended recovered materials content levels for steel in this table reflect the fact that the designated items are made from steel manufactured in a Basic Oxygen Furnace (BOF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is postconsumer steel.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PLASTIC ENVELOPES^{1,2}**

Material	Postconsumer Content (%)	Total Recovered Materials Content (%)
Plastic	25	25-35

¹See the Uncoated Printing and Writing Papers table for paper envelopes.

²EPA's recommendation does not preclude procuring agencies from purchasing envelopes made from another material such as paper. It simply requires that a procuring agency, when purchasing plastic envelopes, purchase these items made from recovered materials when these items meet applicable specifications and performance requirements.

**EPA'S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR
PLASTIC TRASH BAGS¹**

Product	Recovered Material	Postconsumer Content (%)
Plastic Trash Bags	Plastic	10-100

¹EPA's recommendation does not preclude procuring agencies from purchasing trash bags made from another material such as paper. It simply requires that a procuring agency, when purchasing plastic trash bags, purchase these items made from recovered materials when these items meet applicable specifications and performance requirements.

EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PRINTER RIBBONS

Minimum content standards are not appropriate for remanufactured items, such as printer ribbons, because a core part of the item is reused in the new product, even though certain components of a printer ribbon might contain recovered materials.

In lieu of content standards, EPA’s RMAN recommends that procuring agencies adopt one or both of the following approaches:

- Procure printer ribbon reinking or reloading services; and/or
- Procure reinked or reloaded printer ribbons.

EPA further recommends that procuring agencies establish policies that give priority to reinking or reloading their expended ribbons.

The State of Alabama has a specification for reinked ribbons that requires the ribbons to be vacuum cleaned, reinked, and rewound to proper tension.

EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR TONER CARTRIDGES

EPA’s RMAN recommends that procuring agencies establish procedures and policies that give priority to remanufacturing the agencies’ expended toner cartridges. EPA recommends that, under such policies and procedures, agencies procure remanufacturing services for expended cartridges and, when such services are unavailable or not practicable, obtain remanufactured toner cartridges or new toner cartridges made with recovered materials from product vendors.

Vehicular Products

EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR ENGINE COOLANTS

EPA recommends that procuring agencies whose vehicles are serviced by a motor pool or vehicle maintenance facility establish a program for engine coolant reclamation and reuse that consists of either reclaiming the spent engine coolant on-site for use in the agencies’ vehicles or establishing a service contract for reclamation of the agencies’ spent engine coolant for use in the agencies’ vehicles.

EPA does not recommend one type of engine coolant over another. EPA recommends, however, that procuring agencies purchase engine coolant containing only one base chemical, typically ethylene glycol or propylene glycol, to prevent the commingling of incompatible types of engine coolant.

EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR RE-REFINED LUBRICATING OIL

EPA recommends that procuring agencies set their minimum re-refined oil content standard at the highest level of re-refined oil that they determine meets the statutory requirements of RCRA section 6002(c)(1), but no lower than 25 percent re-refined oil.

EPA recommends that procuring agencies review their procurement practices and eliminate those that would inhibit or preclude procurement of lubricating oils containing re-refined oil. For example, procuring agencies should review the practices of inviting bids and issuing contracts to do the following:

- Supply a broad range of lubricating oil products on an “all or none” basis.
- Supply lubricating oils for an excessively long period of time.
- Deliver lubricating oils to geographic locations throughout the U.S. or to an excessively broad geographic area.
- Supply excessively large contract quantities.

EPA’S RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR RETREAD TIRES

EPA recommends that procuring agencies establish preference programs that include these two components:

- *Procurement of tire retreading services for the agencies’ used tire casings.* EPA recommends that procuring agencies specify that tire repair and retread services must conform to Federal Specification ZZ-T-441H (or current version); obtain retreading services from retreaders participating in the U.S. General Services Administration (GSA) Federal Tire Program’s Quality Assurance Facility Inspection Program (QAFIP); and require bidders to submit a copy of their current certification under the QAFIP.
- *Procurement of tires through competition between vendors of new tires and vendors of retread tires.* EPA recommends that procuring agencies specify that retread tires must meet the requirements of Federal Specification ZZ-T-381, “Tires, Pneumatic, Vehicular (Highway) (New and Retreaded),” and be listed on Qualified Products List QPL-ZZ-T-381. EPA further recommends that procuring agencies require bidders to submit a copy of their current certification under the QAFIP.

In the event that identical low bids are received in response to a solicitation, all other factors being equal, procuring agencies should provide a preference to the vendor offering to supply the greatest number of retread tires.